Case 3664

Tipula contaminata Linnaeus, 1758 (currently *Ptychoptera contaminata*; Insecta, Diptera): proposed conservation of prevailing usage through designation of a neotype

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Abstract. The purpose of this application, under Article 75.6 of the Code, is to conserve the universal usage of *Tipula contaminata* Linnaeus, 1758 by setting aside all previous type fixations and designating a neotype. *Tipula contaminata* is the type species of the genus *Ptychoptera* Meigen, 1803, itself the type genus of the family PTYCHOPTERIDAE Osten Sacken, 1862. This species is found over much of Europe, and all authors subsequent to Meigen (1803) have utilized his concept of the species. However, the holotype of *Tipula contaminata* Linnaeus, 1758 represents a species of TIPULIDAE. It is proposed that a neotype be designated for *Tipula contaminata* to preserve two hundred years of common usage and ensure nomenclatural stability at the genus and family rank.

Keywords. Nomenclature; taxonomy; Insecta; Diptera; PTYCHOPTERIDAE; *Ptychoptera*; *Tipula*; *Ptychoptera contaminata*; Phantom Crane Fly; Palaearctic; Europe.

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1. Linnaeus (1758, p. 586) described the species *Tipula contaminata*. The only available syntype (Linnaeus did not designate a holotype) is a member of the family TIPULIDAE Latreille, 1802. The specimen is an adult male mounted by a pin through the dorsal surface of the thorax. The complete head and abdomen remain attached to the thorax, as does one wing. All legs are detached, with only one leg glued to the determination label, on which is written '*T. contaminata*' in cursive script. No other labels are present. The material is housed at the Linnean Society of London, and the authors examined photographic images of the specimen. In his description of this species, Linnaeus (1758) referred to entry 1134 in his *Fauna Svecica* (Linnaeus, 1746, p. 333), but did not indicate in either of these works how many specimens he examined. The current syntype does not match Linnaeus's (1746) description or (1758) diagnosis, 'alis nigro maculatis, corpore nigro,' [wing maculated black, body black]. The syntype thorax has the scutum and pleurites russet brown with dark patterning. It is possible that this specimen was part of a larger series assigned to *Tipula contaminata* and this is the only specimen still existing. It is currently unknown who designated the syntype. The examination of this specimen was undertaken by the first author based on photomicrographs provided by the Linnean Society of London. The specimen is in good diagnostic condition, retaining the male genitalia and is thus distinguishable to species level with dissection, though the authors feel that a tipulid specialist should undertake this examination.

Fig. 1. Habitus of the proposed neotype of *Tipula contaminata* Linnaeus, 1758. Scale bar 1mm.

2. Fabricius (1775, pp. 749–750; 1781, p. 402) provided a diagnosis of *Tipula contaminata*, correctly referencing Linnaeus as the originator of the name. The species was also diagnosed by Fabricius (1787, p. 322), but no citation to Linnaeus was provided.

3. Meigen (1800) proposed several dozen new genera of Diptera with the description of the genus *Liriope* Meigen, 1800 closely corresponding to his later (Meigen, 1803) description of the genus *Ptychoptera*. Meigen's (1800) publication was suppressed in 1960 by the Commission in Opinion 678 (BZN **20**: 339–342, 1963).

4. Meigen (1803, pp. 262 263), listed '*Tipula contaminata* Fabr.' and *Tipula albimana* Fabricius, 1787 as members of the genus *Ptychoptera* Meigen, 1803. '*Tipula contaminata* Fabr.' clearly refers to *Tipula contaminata* Linnaeus, 1758 as presented

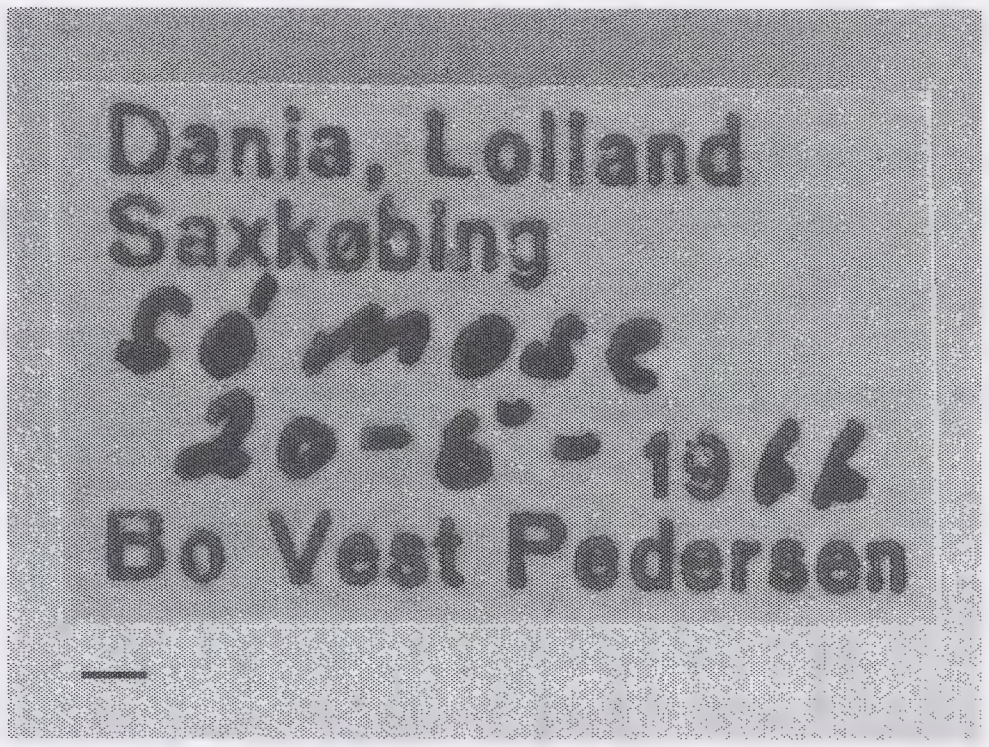

Fig. 2. Locality label of the proposed neotype of *Tipula contaminata*. Scale bar 1mm.

in Fabricius's works. Meigen's generic description (diagnosis based on the elongate first antennal flagellomere/third antennal segment) does not fit the holotype of *Tipula contaminata* Linnaeus, 1758. Specifically, 'PTYCHOPTERA. Die Fühlhörner vorgestrekkt, sechszehngliederig: das erste Glied walzenförmig, kurz; das zweite becherförmig; das dritte walzenförmig, lang; die folgenden länglicht, dünnhaarig Die Flügel halb offen.' [PTYCHOPTERA. Antennae stretched forward, sixteen segmented: the first segment cylindrical, short; the second cup-shaped; the third cylindrical, long; the following oblong, fine setae. The wings half open.] In the Linnaean type specimen the first flagellomere/third antennal segment is round, and not significantly longer than the succeeding flagellomeres.

5. Latreille (1810, p. 442) subsequently designated 'Ptychoptera contaminata, Fab.' as the type species of *Ptychoptera* as a First Reviser action (Latreille). According to Article 67.7 the incorrect citation of '*Ptychoptera contaminata* Fabr.' is considered to refer to *Tipula contaminata* Linnaeus, 1758, and is a valid designation. Based on Article 69.1 and the Opinions 11 (Smithsonian Miscellaneous Publications **1938**: 17–18, 1910) and 136 (Opinions and Declarations **2**: 13–19, August 1939) Latreille's (1810) citation is to be accepted as a designation of *Tipula contaminata* Linnaeus, 1758 as the type of the genus.

6. Osten Sacken (1862, p. 12) proposed the family-group taxon PTYCHOPTERINA (later emended to PTYCHOPTERINAE by Schiner, 1863) within TIPULIDAE in 1862. The genera *Bittacomorpha* Westwood, 1835, *Macrochile* Loew, 1850, *Protoplasa* Osten Sacken, 1860 and *Ptychoptera*, were included; the type genus to be inferred is *Ptychoptera*.

7. Brauer (1869) and Hart (1895, pp. 189–190) considered PTYCHOPTERIDAE as a full family.

8. Meigen's concept of *Tipula contaminata* has been universally accepted (Handlirsch, 1909, p. 269, 271–272; Tonnoir, 1919, pp. 115, 119; Grünberg, 1920, pp. 76–77; Reidel, 1921, p. 147; Séguy, 1925, pp. 8–9, 11–14; Audcent, 1934, pp. 106–109, 111, 116–119; Peus, 1958, pp. 11, 15–21, 26, 28, 30, 32, 34; Brindle, 1962, p. 212–216; Tjeder, 1968, pp. 73–75; Zitek-Zwyrtek, 1971, pp. 416, 418, 420–423; Zwyrtek, 1971, pp. 36–38; Hansen, 1981, pp. 59–63; Theischinger, 1978, pp. 26; Draskovits, 1983, pp. 80, 82–83, 85; Krzemiński, 1986, pp. 105, 107–108, 117–119; Zwick, 1988, pp. 123, 128–129; Podenas, 1991, p. 155; Krzemiński & Zwick, 1993, pp. 80, 85–86; Stubbs,

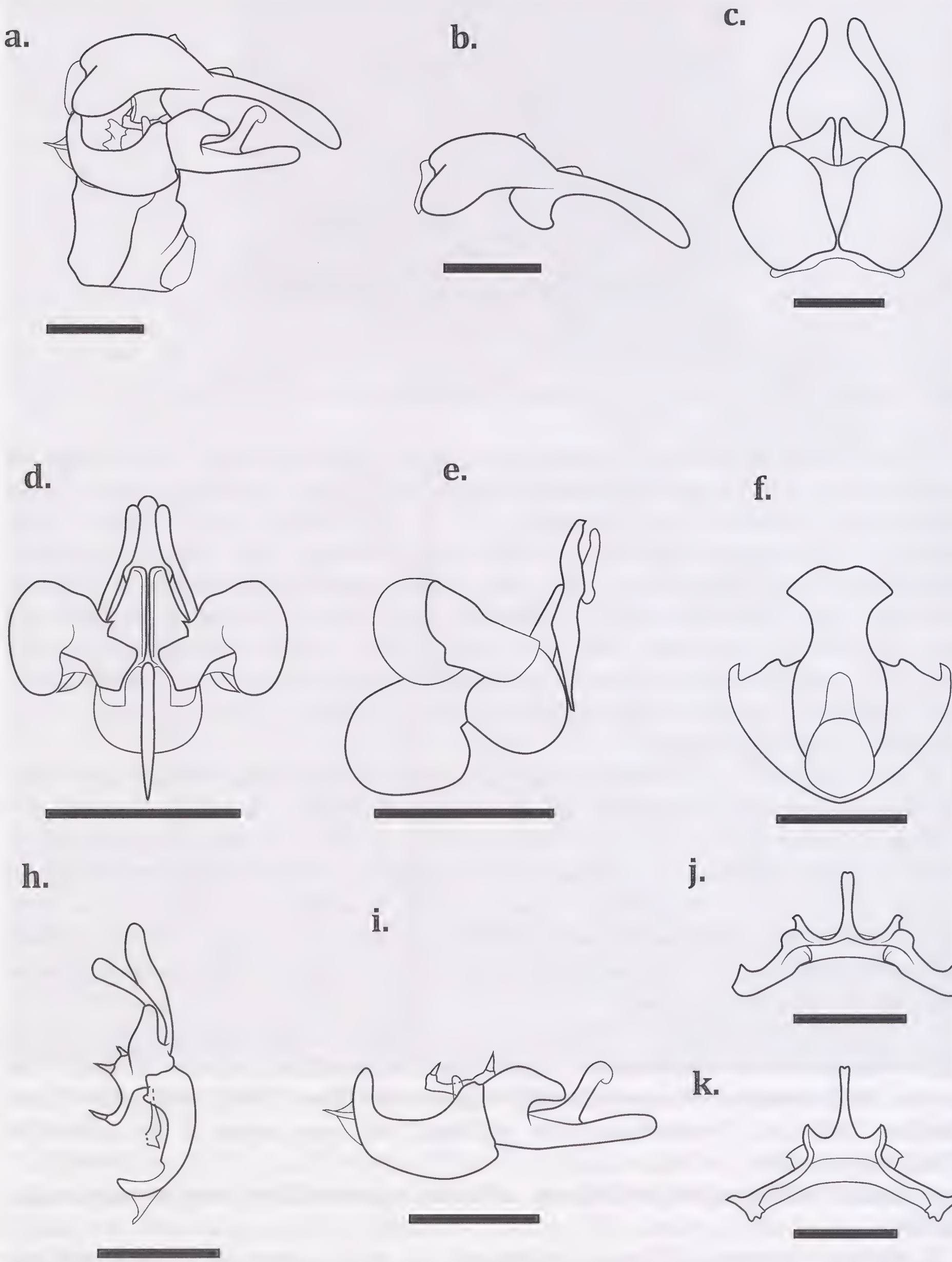

Fig. 3. Male genitalia of the proposed neotype of *Tipula contaminata*: **a.** Overall lateral view; **b.** Epandrium lateral view; **c.** Epandrium dorsal view; **d.** Aedeagus anterior view; **e.** Aedeagus lateral view; **f.** Hypandrium posterior view; **h.** Gonopod dorsal view; **i.** Gonopod dorsal view; **j.** Paramere posterior view; **k.** Paramere dorsal view. Scale bars **a–i** 0.5 mm, **j** & **k** 0.25 mm.

1993, pp. 7, 9, 12, 25, 28; Rozkošný, 1997, pp. 294–295; Pârvu, 2004, p. 190; Ujvárosi et al., 2011, pp. 40, 42–43, etc.). This species (*Ptychoptera* sp.) has black thoracic

sclerites as well as wings with maculated infuscation, matching the description by Linnaeus (1746, 1758).

9. The authors cannot find a single instance of the usage of *Ptychoptera contaminata* after 1800 which is definitively referable to the species represented by the Linnaean type material, and the descriptions provided by Linnaeus and Fabricius do not match the coloration of the syntype.

10. The consequences of designating the single surviving syntype as a lectotype would be would be placing *Ptychoptera* as a synonym of an undetermined tipulid genus and PTYCHOPTERIDAE as a subjective junior synonym of TIPULIDAE. The current concept of the taxa *Ptychoptera* and PTYCHOPTERIDAE would require new names, and *Ptychoptera* sp. would be assigned a different name than that to which it has historically been referred. There are no accepted junior synonyms of *Ptychoptera* sp., and Peus (1958 p. 40) did not refer any of the nomina dubia within the genus to *Ptychoptera contaminata*.

11. The authors propose that the Commission, under Article 75.6, set aside all previous type fixations (including the name-bearing specimen of *Ptychoptera contaminata* in the Linnean Society of London, and designate a specimen of the currently unnamed species from the collection of the Natural History Museum of Denmark as the neotype. The neotype was chosen because it is representative of the prevailing usage of the name *Ptychoptera contaminata*, for the state of preservation of the specimen and the locality in northern Europe where Linnaeus' specimen was probably collected. This neotype designation would preserve over two centuries of common usage of *Ptychoptera contaminata*, and preserve the established usage of the genus- and family-rank names *Ptychoptera* Meigen, 1803 and PTYCHOPTERIDAE Osten Sacken, 1862.

12. The authors do not anticipate any opposition among ptychopterid or tipulid taxonomists, as this measure is essentially conservative and avoids any nomenclatural changes in either taxon.

13. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power to set aside all type fixations for the nominal species *contaminata* Linnaeus, 1758, as published in the binomen *Tipula contaminata*, and to designate the specimen from the Natural History Museum of Denmark (ZMUC) with the locality label data 'Dania, Lolland, Saxkøbing Sómose 20–6-1966 Bo Vest Pedersen,' and a second label reading 'NEOTYPE: *Tipula contaminata* Linnaeus 1758, det. A Fasbender' as the neotype;

(2) to place on the Official List of Specific Names in Zoology the name *contaminata* Linnaeus 1758, as published in the binomen *Tipula contaminata* and as defined by the neotype designated in (1) above.

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the I.C.Z.N., Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).